

### ABSTRACT

A communication device includes a noise flattening filter having a filter response that dynamically adjusts based on the current noise spectrum in a wireless channel. The noise spectrum of the wireless channel is estimated and used to determine  
5 a noise classification for the channel. A noise flattening filter response is then selected based upon the noise classification for use in filtering signals received from the channel. The filtered signals are then delivered to an equalizer for further processing.

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